

Title: Don't Be Bugged By Decimals

Brief Overview:

In this unit, students will focus on understanding, representing and comparing decimals. Day One will focus on grid representations and expanded form. Day Two will move into comparing and ordering decimals using place value. Then Day Three will introduce the use of number lines to compare decimals. Throughout the unit, students will be using data about insects which are native or invasive to the state of Maryland.

NCTM Content Standard:

The students should:

- Understand the place-value structure of the base-ten number system and be able to represent decimals
- Solve problems using decimals
- Compare and order decimals
- Locate decimals on a number line

Grade/Level:

Fourth and fifth grade

Duration/Length:

Three to five 60 minutes lessons

Student Outcomes:

Students will:

- Read, write, or represent decimals using symbols, words, or models
- Compare, order, and describe decimals
- Represent decimals on a number line

Materials and Resources:

Day One

- Pre-Assessment, *Don't Be Bugged By Decimals*
- Pre-Assessment, *Don't Be Bugged By Decimals* Answer Key
- *Native Maryland Insects*
- *Native Maryland Insect Lengths* – one set for each group
- *Native Maryland Insect Lengths Representations* – one set for each group

- Base ten blocks
- *Grid Paper*- two sheets for each pair
- Poster paper or large construction paper – one sheet for each pair
- Scissors and glue sticks
- *Place Value Chart*
- *Dueling Decimals*
- *Who 's The Heavyweight?*

Day 2

- *Native Maryland Insects*
- *Compare and Order*
- *Comparing Decimals* – one copy for teacher and copies for students who may want to use them
- *Decimal Dilemmas*
- Dry erase boards for each student
- *Bugged Out*

Day 3

- *Native Maryland Insects*
- *Invasive Maryland Insects*
- *Invasive Insect Number lines*
- *Invasive Insect Lengths*
- *Number Lines*
- *Critter Comparison*
- *Adding Decimals on a Number Line*
- *Decimals On A Number Line*

Development/Procedures:

Day 1

Pre-assessment

- Have students complete Pre-Assessment, *Don't Be Bugged By Decimals*.
- Collect and review responses using Pre-Assessment, *Don't Be Bugged By Decimals* Answer Key.

Engagement

- Display a picture of a native Maryland insect- see *Native Maryland Insects* for suggestions. Tell them that this insect is native to Maryland. Discuss the meaning of “native.” Ask students to generate a list of insects that they think are native to Maryland. Display this list throughout the unit.

Exploration

- Display *Native Maryland Insects* without revealing the lengths and wingspans columns. Discuss student predictions compared to this list.
- Tell them that you will be giving them the lengths of these insects as well as the representations of these lengths.
- Put students in groups and one set of *Native Maryland Insect Lengths* and one set of *Native Maryland Insect Length Representations* to each group.
- Have students work as a group to match each length with the appropriate representation.

Explanation

- Have students share their responses to check for correctness and understanding of place value. Discuss strategies used to complete the matching activity. Be sure students are using the appropriate vocabulary – tenths, hundredths, thousandths, place value, etc. This is also a good time to reinforce the “correct” reading of decimals.
- Have students make predictions about which lengths match each of the insects on the *Native Maryland Insects* list.
- Reveal the lengths of the insects on the displayed list of insects so students can check their predictions.
- Using the displayed *Native Maryland Insects* list and show the students the column which lists the wingspans of the native Maryland insects.
- Group students into pairs.
- Give each pair of students a piece of poster paper or large construction paper and either base ten grids, *Grid Paper*, and/or base ten blocks.
- Have students make four columns on their paper. Students should write the name of each insect in the first column, the wingspan in the second column and use either grids or base ten blocks to represent the weights of each insect in the third column. Tell them they will be using the fourth column later in the lesson. Circulate to monitor student understanding and support where needed.
- Have students share their charts and discuss strategies used to represent each decimal. Again, reinforce the use of place value vocabulary and the “correct” reading of decimals.

Extension

- Review what the students remember about expanded form.
- Model writing decimals in expanded form.
- Have the groups write the expanded form for each of their insects in the fourth column of their poster.
- Circulate to monitor student understanding and support where needed. Ask students to explain their thinking.

Differentiation

- Reteach
 - For students who need more support, students can use decimal *Place Value Chart* for identifying tenths, hundredths and thousandths.
 - Give students place value clues for a Mystery Number and have them identify the number. Ex. The number is 4.53. A clue could be: The number has a 5 in the tenths place. Continue giving clues until students have created the mystery number.
- Enrich
 - Have students use *Dueling Decimals* and play with a partner.

Evaluation

- Have students complete *Who's The Heavyweight?*

Day 2

Engagement

- Display *Native Maryland Insects* from Day One.
- Have students choose 3 insects and write their lengths in expanded form. Then trade papers with a neighbor who then has to identify the names of the three insects.
- Share responses and discuss strategies used to match the expanded form with the appropriate insect.

Exploration

- Distribute *Compare and Order*. Students should complete #1 and #2 independently. Students should explain their answers in words, pictures and/or numbers. Circulate and monitor for student understanding. An answer key is provided.

Explanation

- Discuss strategies that students used during Exploration. Model how to line decimals up by place value if students do not offer that strategy. Use *Compare and Order Decimals* as a strategy for comparing decimals. Complete #3 and #4 together as a model for students.
- Optional: Go to this link and use the model provided for explaining how to use the place value charts to compare decimals:
http://www.mathsisfun.com/ordering_decimals.html
- Have students complete the rest of the sheet independently. Students should be using grids, place value charts or base ten blocks to compare and order decimals.
- Discuss student responses and strategies.

Extension

- Use *Decimal Dilemmas* to help students compare and order decimals.

- Complete activities as a class. Using dry erase boards would allow for informal assessment of student understanding.

Differentiation

- Reteach
 - Provide copies of *Comparing Decimals* to those students who would like to use them.
 - Use base ten blocks to model the place values of each number and then compare the amounts of ones, tenths, etc.
- Enrich
 - Have student play Decimal Ordering game at <http://www.mathsisfun.com/numbers/ordering-game.php?m=Dec-Tricky>
 - Have students play game at http://www.aaamath.com/dec52_x2.html
 - Have students use *Dueling Decimals* and play with a partner.

Evaluation

- Give students a copy of *Bugged Out*. Have them follow the directions on the sheet to write 3 decimals. Then orally give the final direction for students to order their numbers from least to greatest and provide proof.

Day 3

Engagement

- Display *Native Maryland Insects*. Review the definition of “native” and then introduce the concept of an “invasive” species. Have students generate a list of insects considered invasive to Maryland.
- Display *Invasive Maryland Insects* and have students compare their predictions with the list.

Exploration

- Put students in groups. Distribute one copy of *Insect Number Lines* and one copy of *Invasive Insect Lengths*.
- Have students match the length with the correct number line.

Explanation

- Discuss strategies that groups used to match the lengths and number lines.
- Ask students to identify which of the insects is the longest and to explain how they knew using the number lines. Continue to engage the class in a discussion comparing different insects from the list. Emphasize use of the number lines.
- Display *Decimal Number Lines* and model how to label a number line and place a decimal (using only decimals written to the tenths place) on the number line. Model a few with the class.

- Once they are comfortable with that, demonstrate how to locate decimals written to the thousandths place. Suggest they label the number line as .10, .20, .30 rather than .1, .2. Model a few with the class.
- Summarize the last three days by listing strategies they could use to compare and/or order decimals – number lines, place value charts, grids, base ten blocks.
- Give students a copy of *Invasive Insects Comparisons* to complete. Circulate to monitor student understanding.
- Have students share their responses. An answer key is provided.

Extension

- Distribute and have students complete *Critter Comparison*.
- Have students share their responses.

Differentiation

- Reteach
 - Using *Decimals on a Number Line* with base 10 blocks allows students to use base ten blocks with the number line.
- Enrich
 - Have students complete *Adding Decimals on a Number Line*.
 - Play Numberlines game at www.amblesideprimary.com/ambleweb/mentalmaths/numberlines.html

Evaluation

- Distribute and have students complete *Decimals on a Number Line*. An answer key is provided.

Summative Assessment:

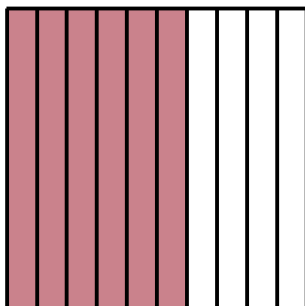
- Have students complete *Decimal Unit Assessment*.
- Assess student learning using the *Answer Key*.

Authors:

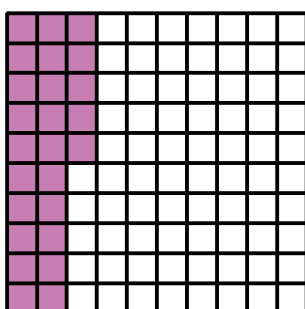
Tricia Gasivwa
Emmorton Elementary school
Harford County, Maryland

Corjie Tarlton
Sparks Elementary School
Baltimore County, Maryland

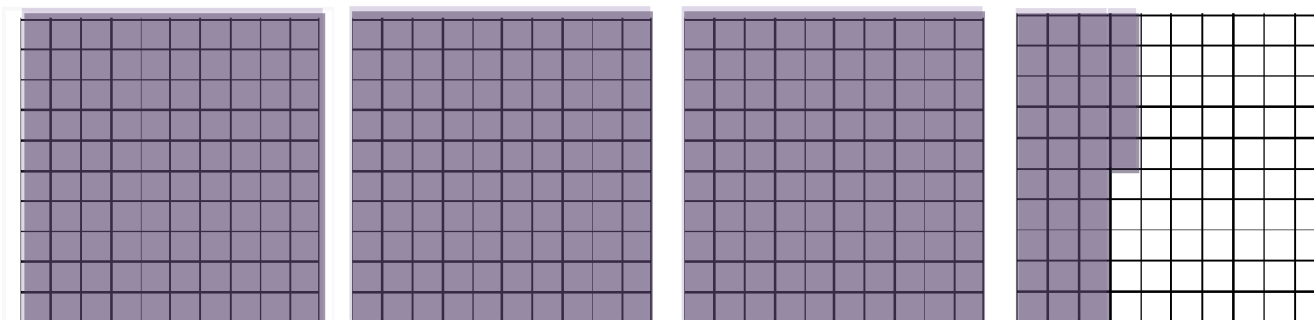
1. What decimal number is illustrated? _____



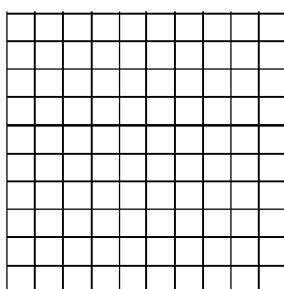
2. What decimal number is illustrated? _____



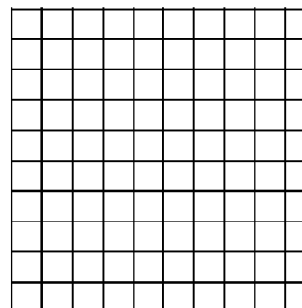
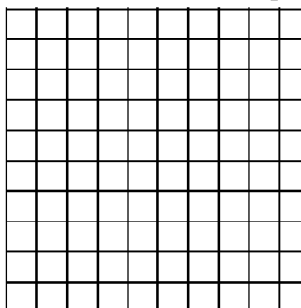
3. What decimal number is illustrated? _____



4. a. Shade the grid to show 0.47.



b. Shade the grids to show 1.53.



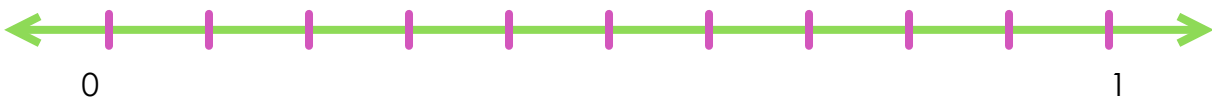
5. In 0.14, which digit is in the ones place? _____
6. In 0.27, which digit is in the hundredths place? _____
7. Which decimal is equivalent to 0.6?
 - a. 0.9
 - b. 0.600
 - c. 0.26
 - d. 6.00

8. Find the value of n . Write your answer as a decimal number.



$n =$

9. If the value of w is 0.1, place it on the number line



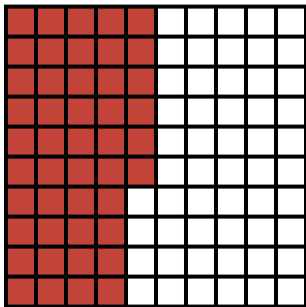
10. Write $<$, $>$, or $=$ to make the sentence true.

1.51 0.61

11. Write $<$, $>$, or $=$ to make the sentence true.

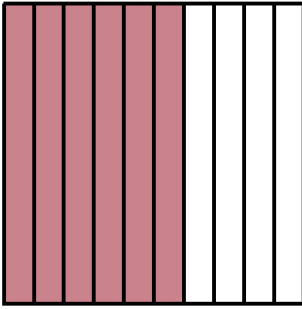
0.8 1.4

12. Which decimal is less than the one shown in this diagram?

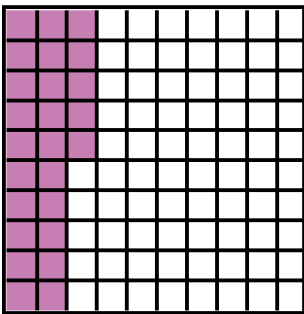


- a. 0.462
- b. 0.5
- c. 0.47
- d. 0.459

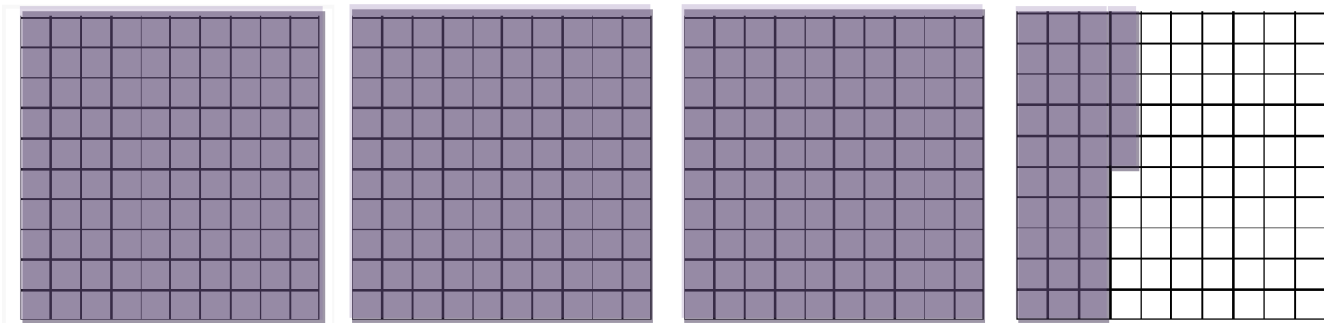
1. What decimal number is illustrated? **0.6**



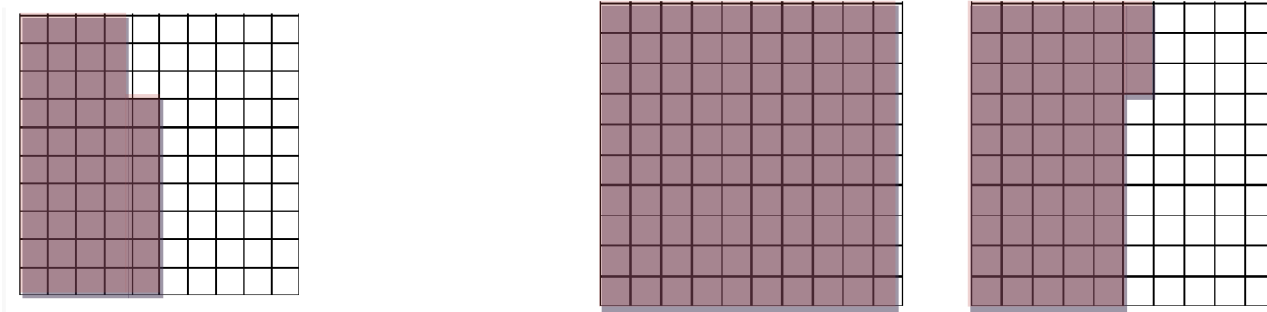
2. What decimal number is illustrated? **0.25**



3. What decimal number is illustrated? **3.35**



4. a. Shade the grid to show 0.47. b. Shade the grids to show 1.53.



5. In 0.14, which digit is in the ones place? **0**
6. In 0.27, which digit is in the hundredths place? **7**
7. Which decimal is equivalent to 0.6?

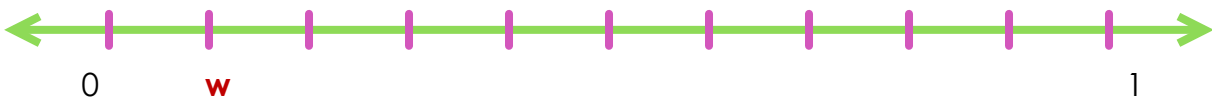
- a. 0.9
- b. 0.600**
- c. 0.26
- d. 6.00

8. Find the value of n . Write your answer as a decimal number.



n =

9. If the value of w is 0.1, place it on the number line.



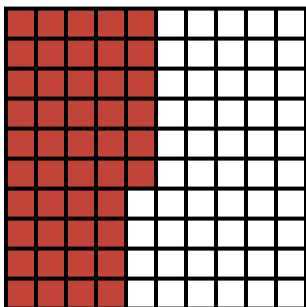
10. Write $<$, $>$, or $=$ to make the sentence true.

1.52 **>** 0.61

11. Write $<$, $>$, or $=$ to make the sentence true.

0.9 **<** 1.4

12. Which decimal is less than the one shown in this diagram?

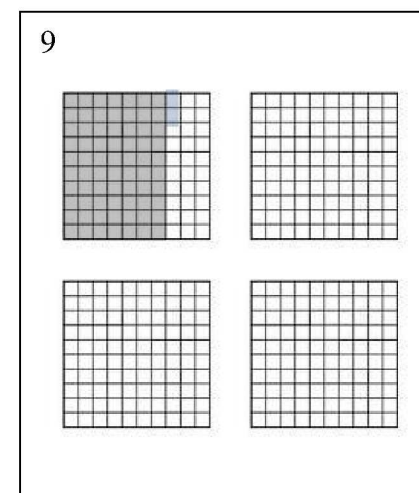
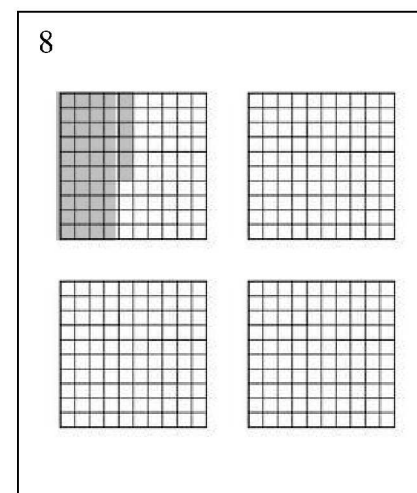
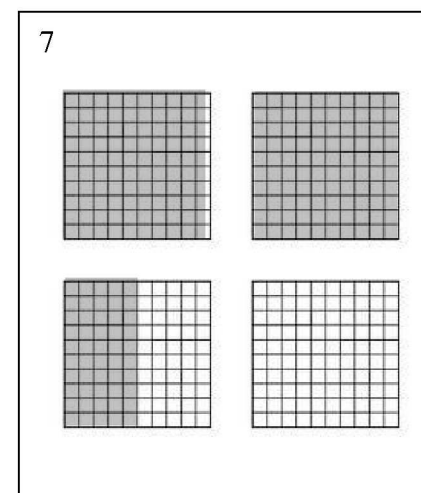
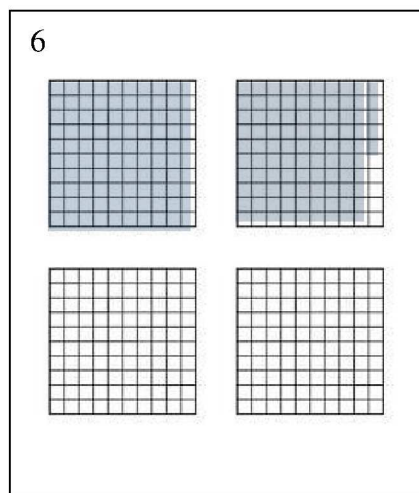
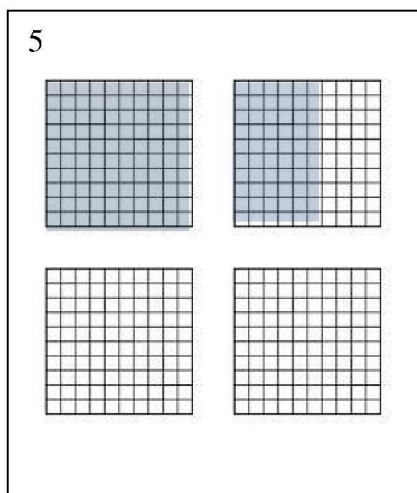
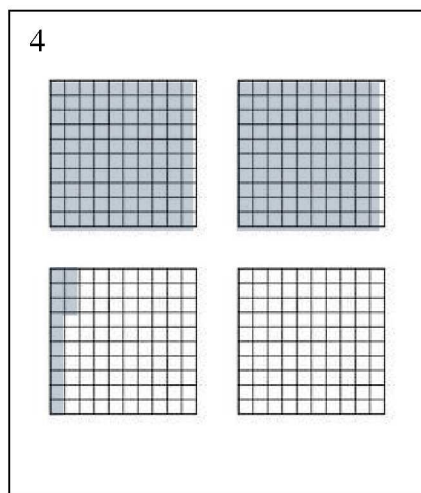
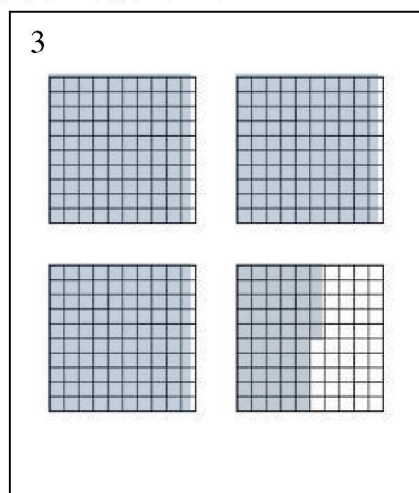
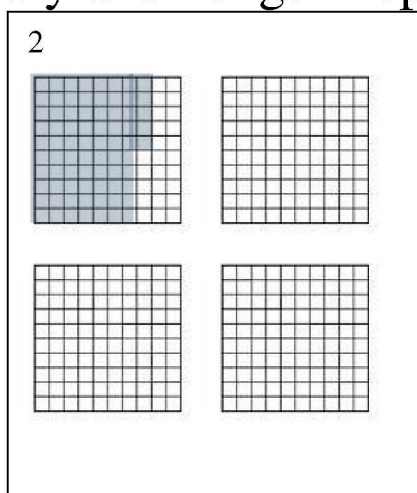
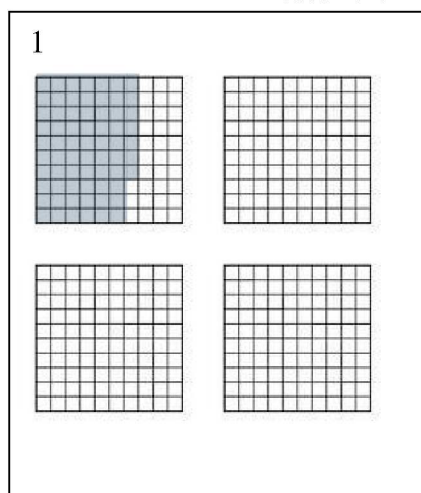


0.459

Native Maryland Insects

Insect Name	Possible Length	Possible Wingspan
Carpenter Bee	0.72 inches	3.2 inches
Puritan Tiger Beetle	0.46 inches	2.76 inches
Baltimore Checkerspot Butterfly	2.5 inches	2.25 inches
Cicada	1.95 inches	4.03 inches
American Cockroach	1.6 inches	3.26 inches
Camel Cricket	2.13 inches	1.63 inches
Dragonfly	3.55 inches	4.72 inches
Earwig	0.75 inches	1.90 inches
Bald-faced Hornet	0.67 inches	1.38 inches

Native Maryland Length Representations



Native Maryland Insect Lengths

A.

0.72 inches

B.

0.46 inches

C.

2.5 inches

D.

1.95 inches

E.

1.6 inches

F.

2.13 inches

G.

3.55 inches

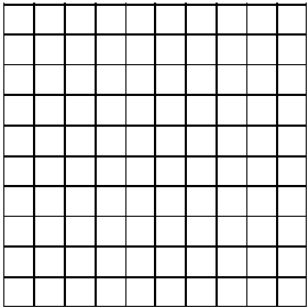
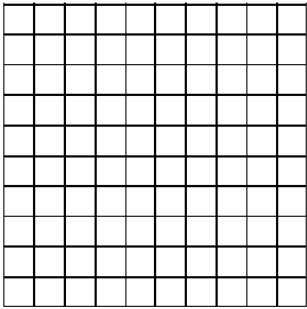
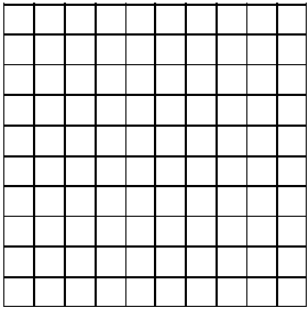
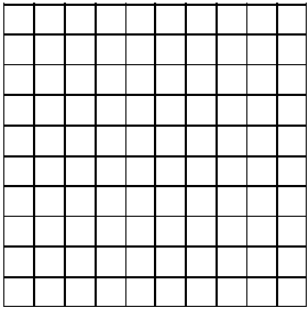
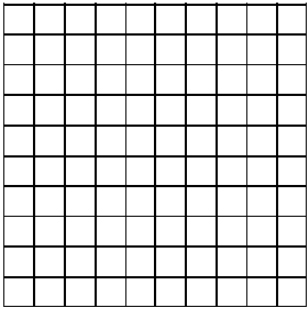
H.

0.75 inches

I.

0.67 inches

Grid Paper



Decimal Place Value Chart

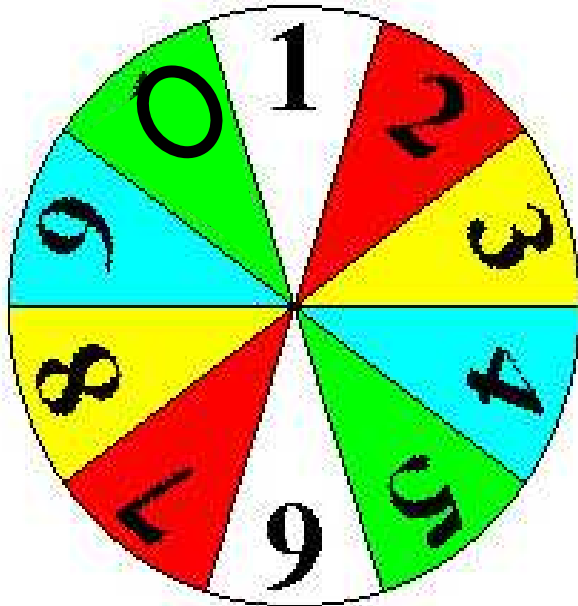
[illegible]

Dueling Decimals



Spin the spinner. Write the digit in a place value. Alternate turns until you have filled in each place value. Each player then reads his/her number. The player with the greater number wins the round.

Round 1	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						
Round 2	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						
Round 3	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						
Round 4	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						

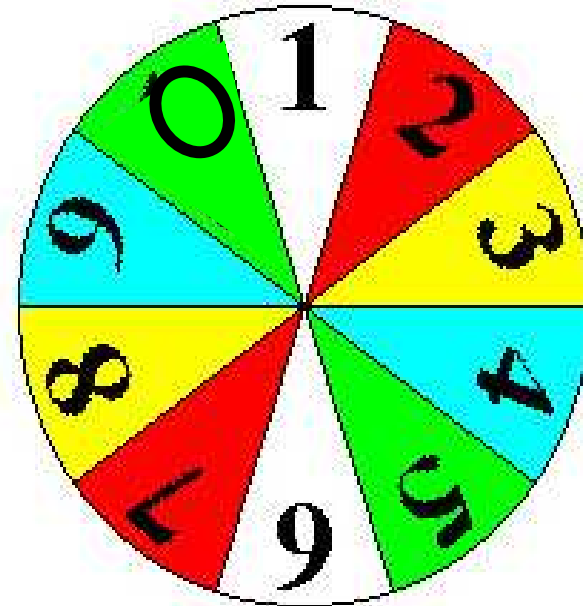


Dueling Decimals



Spin the spinner. Write the digit in a place value. Alternate turns until you have filled in each place value. Each player then reads his/her number. The player with the greater number wins the round.

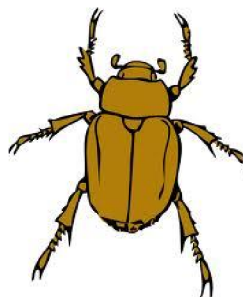
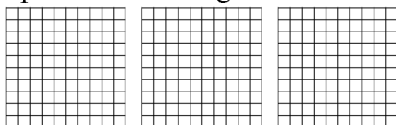
Round 1	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						
Round 2	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						
Round 3	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						
Round 4	Tens	Ones	.	Tenths	hundredths	thousandths
Player 1						
Player 2						



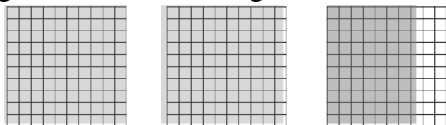
Who's the Heavy Weight?



The lady bug weighs 0.36 g. Draw grids to represent her weight.



The giant beetle's weight is represented by the grids. Write his weight in decimal form.



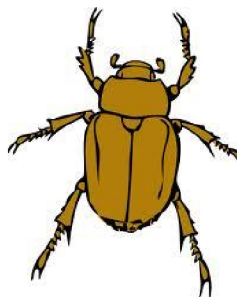
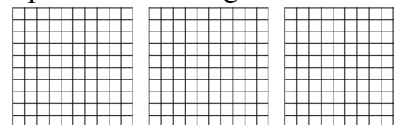
Challenge:

Which insect weighs more? Explain how you know.

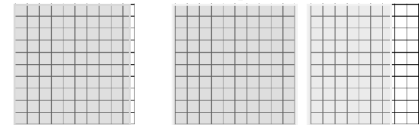
Who's the Heavy Weight?



The lady bug weighs 0.36 g. Draw grids to represent her weight.



The giant beetle's weight is represented by the grids. Write his weight in decimal form.



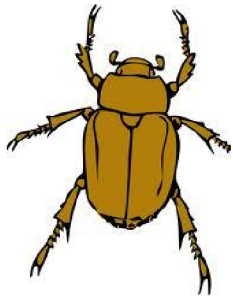
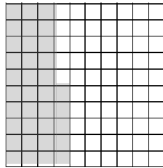
Challenge:

Which insect weighs more? Explain how you know.

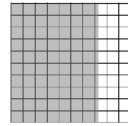
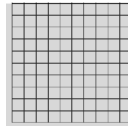
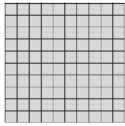
Who's the Heavy Weight



The lady bug weighs 0.36 g. Draw grids to represent her weight.



The giant beetle's weight is represented by the grids. Write his weight in decimal form.



2.7

Challenge?

Which insect weighs more? Explain how you know.

The beetle weighs more because (answers will vary.)

Students may use grids and/or place value in their explanation.

Compare and Order

Complete each box using words, numbers or pictures.

1. Which insect has the greatest length?

Earwig or Bald-faced Hornet

I know this because:



2. Which insect has the shortest wingspan?

Camel Cricket or Carpenter Bee

I know this because:



3. Which insect has the longest wingspan?

Cicada or Puritan Tiger Beetle

I know this because:



4. Name the insects with a wingspan greater than 2.30 inches.



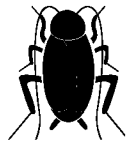
I know this because:

Compare and Order

Complete each box using words, numbers or pictures.

5. Name the insects with a length between 1.7 inches and 3.2 inches

I know this because:



6. Order these insects from shortest to longest wingspan.

___ Carpenter Bee,
___ Puritan Tiger Beetle
___ American Cockroach



I know this because:

7. Name the insects that have a wingspan between 0.8 inches and 1.7 inches.

I know this because:



8. Name the insects whose wingspan has a 3 in the hundredths place.

I know this because:



Compare and Order **Answer Key**

Complete each box using words, numbers or pictures.

1. Which insect has the greatest length?

Earwig or Bald-faced Hornet

I know this because:



2. Which insect has the shortest wingspan?

Camel Cricket or Carpenter Bee

I know this because:



3. Which insect has the longest wingspan?

Cicada or Puritan Tiger Beetle

I know this because:



4. Name the insects with a wingspan greater than 2.30 inches.

Carpenter Bee, Puritan Tiger Beetle, Cicada, American Cockroach, Dragonfly,



I know this because:

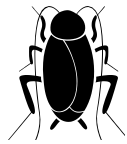
Compare and Order Answer Key

Complete each box using words, numbers or pictures.

5. Name the insects with a length between 1.7 inches and 3.2 inches

Baltimore Checkerspot Butterfly, Cicada,
Camel Cricket,

I know this because:



6. Order these insects from shortest to longest wingspan.

2 Carpenter Bee,
1 Puritan Tiger Beetle
3 American Cockroach



I know this because:

7. Name the insects that have a wingspan between 0.8 inches and 1.7 inches.

Camel Cricket, Bald-faced Hornet

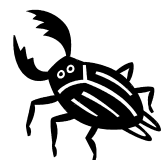
I know this because:



8. Name the insects whose wingspan has a 3 in the hundredths place.

Cicada, Camel Cricket

I know this because:



Decimal Dilemmas

Activity 1: Less than - more than

(Students need dry erase boards and markers.)

Ask students to fill the boxes with some of the digits 0 through 9 to make the following true. The digits do not have to be the same and can be reused. (These are open-ended tasks with many correct answers.) Encourage the students to describe the range of answers in general terms.

Example 1:

$$\square.\square\square < 3.\square$$

When discussing this example, if the digit in the ones place is 0, 1 or 2, then the digits in the next two places (tenths and hundredths) can be anything (because it is always true that $0.XX < 3.X$, and $1.XX < 3.X$, and $2.XX < 3.X$). However, if the digit in the ones place is 3, then the digits in the tenths place need to be considered carefully; the tenths digit on the left needs to be smaller than the tenths digit on the right.

Example 2:

$$\square.\square\square > 8.\square$$

Activity 2: Number Between

(Students need dry erase boards and markers.)

- Write a pair of numbers far apart on the board (smallest on the left). Have students write a number that would be between these numbers. Then call on a student to write his/her number in between the pair.
- Use every pupil response (Thumbs-up/Thumbs/down) to determine if the class thinks a correct answer is given (it does not have to be the midpoint).
- Next students write a number between the new number and one of the earlier endpoints. A dice could be thrown to decide whether it is to be larger or smaller than the new value, or you could have a simple rule such as alternate between the larger and smaller sides and always go for the smaller etc.
- Continue as the number line is divided into smaller and smaller segments.

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

		ones
	.	and
		tenths
		hundredths
		thousandths

Comparing Decimals Using A Place Value Table

Bugged Out



Step 1:

Use the digits 1, 2, 3, 4, 5, 6, 7 8, and 9 to randomly fill in the blanks below. Use each digit only once.

— . —
— . — — —
— . — — —

Step 2:

Follow your teacher's directions for this step.

I know this because

Bugged Out



Step 1:

Use the digits 1, 2, 3, 4, 5, 6, 7 8, and 9 to randomly fill in the blanks below. Use each digit only once.

— . —
— . — — —
— . — — —

Step 2:

Follow your teacher's directions for this step.

I know this because

Invasive Maryland Insects

Insect Name	Average Length
Red Imported Fire Ant	0.18 inches
Brown Marmorated Stink Bug	0.63 inches
Asian Longhorned Beetle	1.24 inches
Asian Tiger Mosquito	0.29 inches
Black Vine Weevil	0.43 inches
Emerald Ash Borer	0.38 inches
Gypsy Moth	2.11 inches
Hemlock Woolly Adelgid	0.03 inches
Japanese Beetle	0.60 inches

Invasive Maryland Insect Lengths

A.

0.18 inches

B.

0.63inches

C.

1.24 inches

D.

0.29 inches

E.

0.43 inches

F.

0.38 inches

G.

2.11 inches

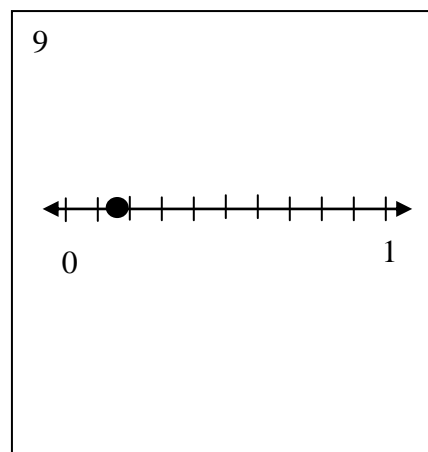
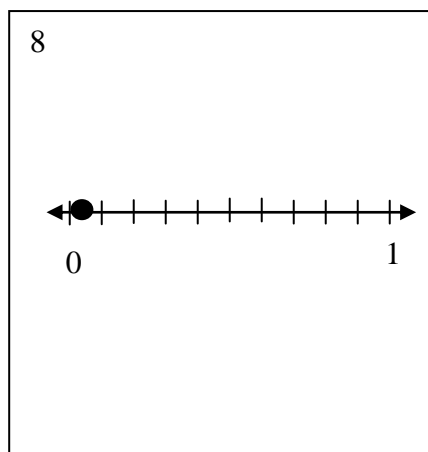
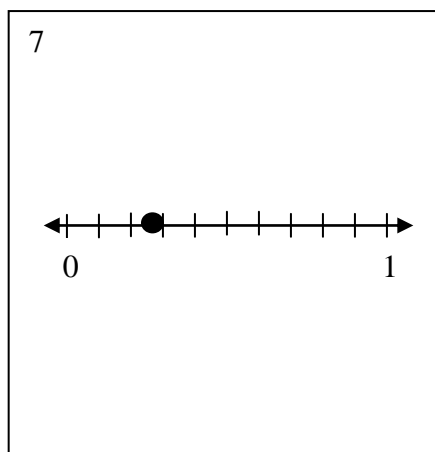
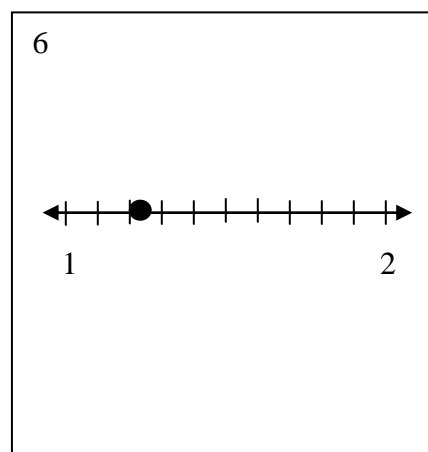
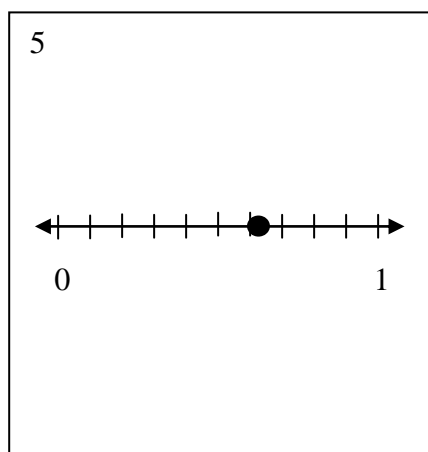
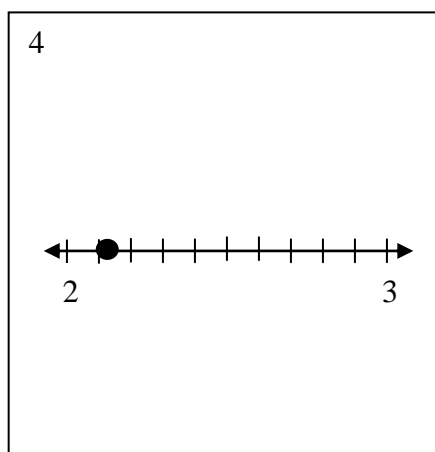
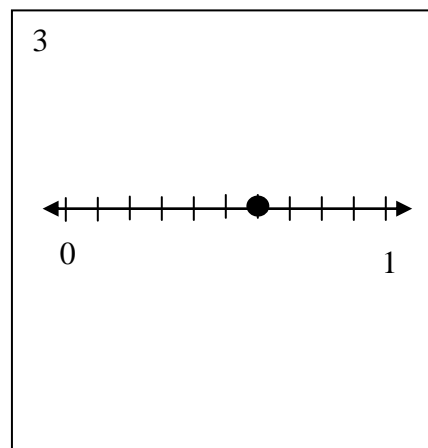
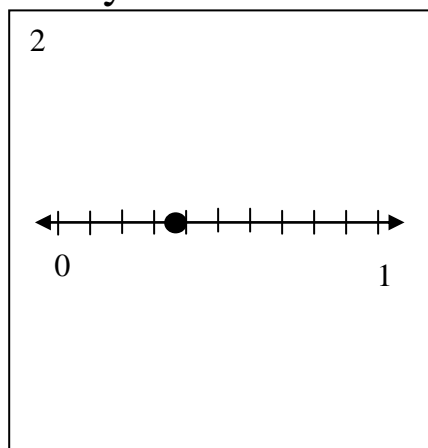
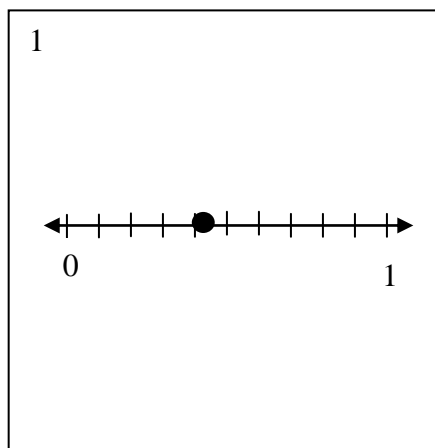
H.

0.03 inches

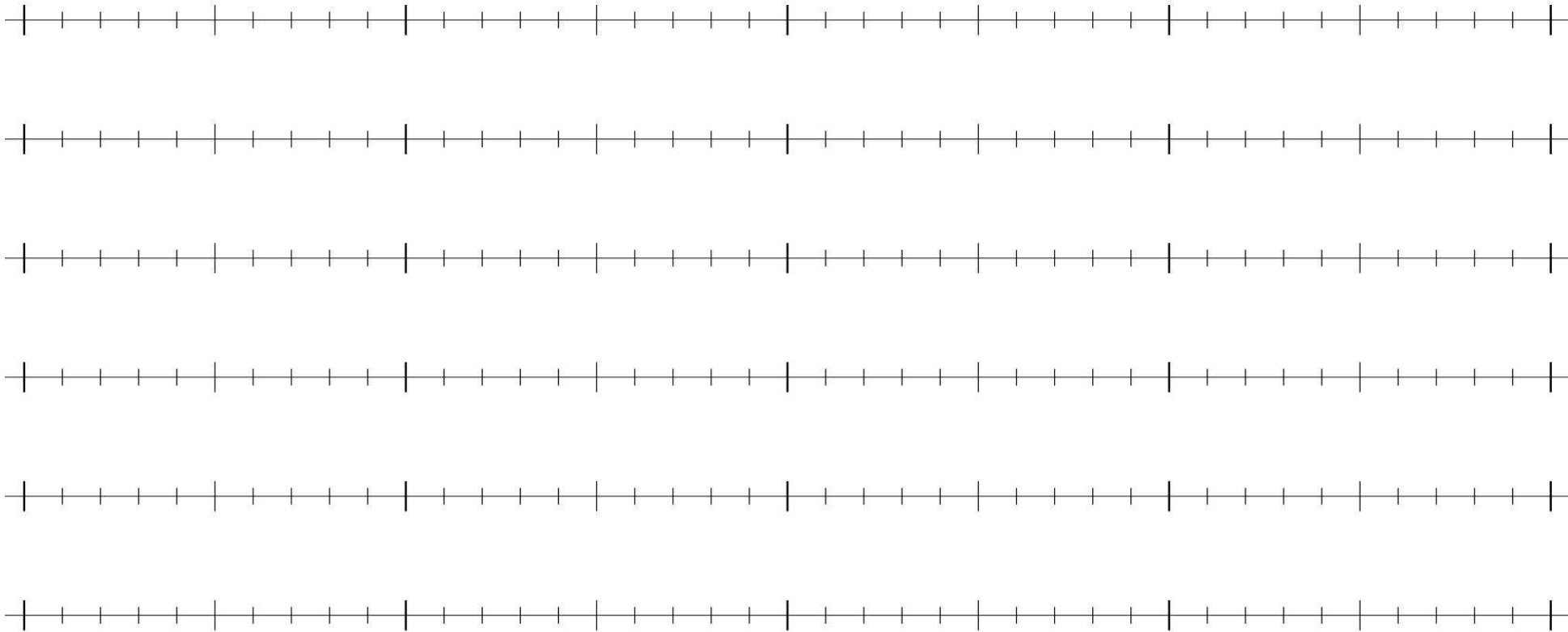
I.

0.60 inches

Invasive Maryland Insect Number Lines



Decimal Number Lines



Name _____

Date _____

Invasive Insect Comparisons

Complete each box using words, numbers or pictures.

1. Which insect has the greatest length?

Asian Longhorned Beetle

or

Asian Tiger Mosquito

I know this because:



2. Which insect has the shortest length?

Black Vine Weevil

or

Emerald Ash Borer

I know this because:



3. Which insect has the greatest length?

Hemlock Woolly Adelgid

or

Red Imported Fire Ant

I know this because:



4. Name the insects with a length greater than 0.65 inches.



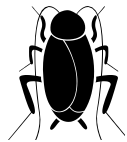
I know this because:

Invasive Insects Comparisons

Complete each box using words, numbers or pictures.

5. Name the insects with a length between 0.23 inches and 1.25 inches

I know this because:



6. Order these insects from shortest to longest.

___ Emerald Ash Borer

___ Black Vine Weevil

___ Asian Longhorned Beetle

I know this because:



7. Name the insects that have a length less than 0.5.

I know this because:



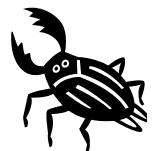
8. Order these insects from longest to shortest.

___ Japanese Beetle

___ Brown Marmorated Stink Bug

___ Hemlock Woolly Adelgid

I know this because:



Invasive Insect Comparisons **Answer Key**

Complete each box using words, numbers or pictures.

1. Which insect has the greatest length?

Asian Longhorned Beetle

or

Asian Tiger Mosquito

I know this because:



2. Which insect has the shortest length?

Black Vine Weevil

or

Emerald Ash Borer

I know this because:



3. Which insect has the greatest length?

Hemlock Woolly Adelgid

or

Red Imported Fire Ant

I know this because:



4. Name the insects with a length greater than 0.58 inches.

Asian Longhorned Beetle,
Brown Marmorated Stink Bug,
Japanese Beetle



I know this because:

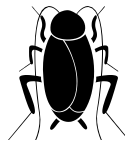
Invasive Insects Comparisons Answer Key

Complete each box using words, numbers or pictures.

5. Name the insects with a length between 0.23 inches and 1.25 inches

Brown Marmorated Stink Bug, Asian Longhorned Beetle, Asian Tiger Mosquito, Black Vine Weevil, Emerald Ash Borer, Gypsy Moth and Japanese Beetle

I know this because:



6. Order these insects from shortest to longest.

1 Emerald Ash Borer
2 Black Vine Weevil
3 Asian Longhorned Beetle



I know this because:

7. Name the insects that have a length less than 0.5.

Red Imported Fire Ant, Asian Tiger Mosquito, Black Vine Weevil, Emerald Ash Borer, Hemlock Woolly Adelgid

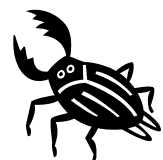
I know this because:



8. Order these insects from longest to shortest.

2 Japanese Beetle
1 Brown Marmorated Stink Bug
3 Hemlock Woolly Adelgid

I know this because:



Adding Decimals on a Number Line

Use what you have learned about decimals on a number line to add these decimals.

1. $4.3 + 0.6 = \underline{\hspace{2cm}}$



2. $5.1 + 0.5 = \underline{\hspace{2cm}}$



3. $7.3 + 0.1 = \underline{\hspace{2cm}}$



4. $5.4 + 2.4 = \underline{\hspace{2cm}}$

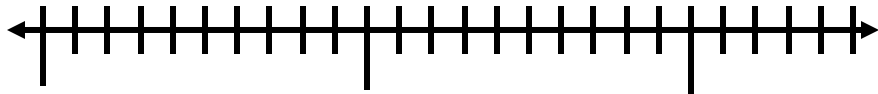


5. $6.3 + 1.5 = \underline{\hspace{2cm}}$



Critter Comparison

Cayden and Kiara started a bug collection. They found 3 insects in their backyard that were invasive to Maryland. Choose three insects from the chart. Record the length and name of the three insects on the number line below.



Write 3 observations that Cayden and Kiara could make to compare the insects.

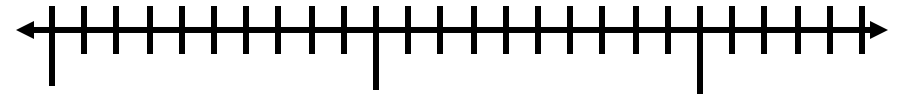
1. _____

2. _____

3. _____

Critter Comparison

Cayden and Kiara started a bug collection. They found 3 insects in their backyard that were invasive to Maryland. Choose three insects from the chart. Record the length and name of the three insects on the number line below.



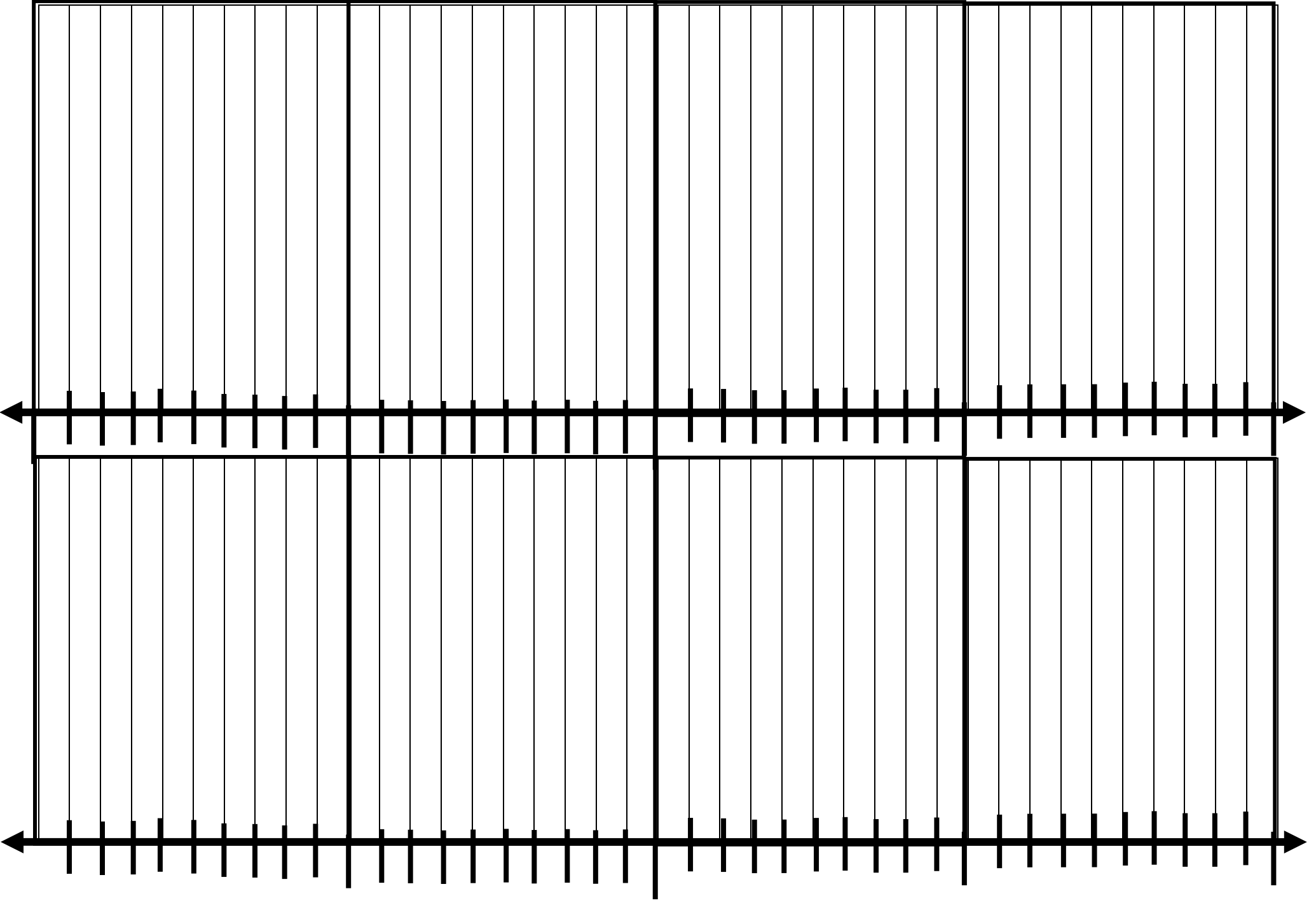
Write 3 observations that Cayden and Kiara could make to compare the insects.

1. _____

2. _____

3. _____

Decimals on a Number Line Using Base-Ten Blocks



Decimals on a Number-line

You found three insects in your backyard.
Their wingspans are 1.9, 1.63, and 0.75.
Which insect's wingspan is the greatest?

Mark the wingspan on the number line.



Explain how you used a number line to
order these decimals.



Decimals on a Number-line

You found three insects in your backyard.
Their wingspans are 1.9, 1.63, and 0.75.
Which insect's wingspan is the greatest?

Mark the wingspan on the number line.



Explain how you used a number line to
order these decimals.



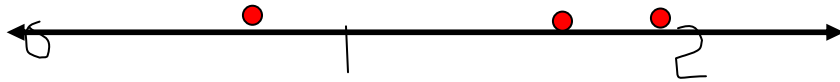
Answer Key

Decimals on a Number-line

You found three insects in your backyard.
Their wingspans are 1.9, 1.63, and 0.75.
Which insect's wingspan is the greatest?

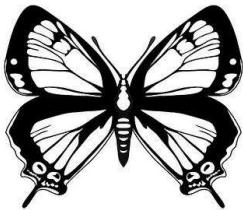
0.75, 1.63, 1.9

Mark the wingspan on the number line.

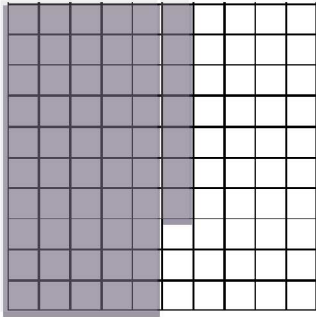


Explain how you used a number line to
order these decimals.

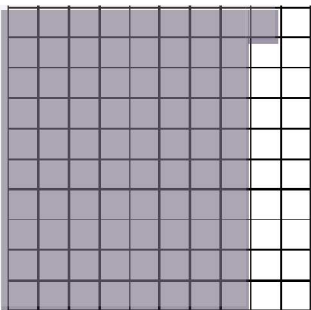
(Answers will vary.)



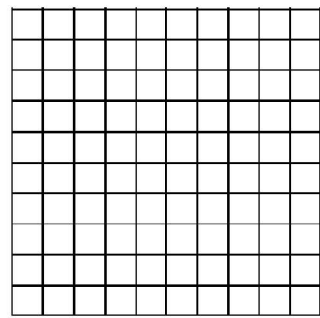
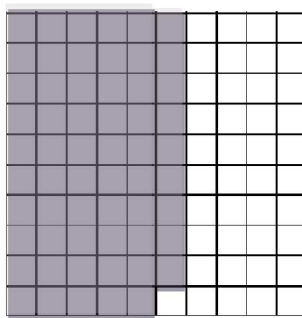
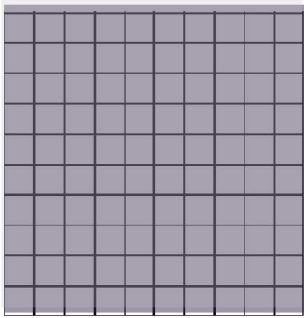
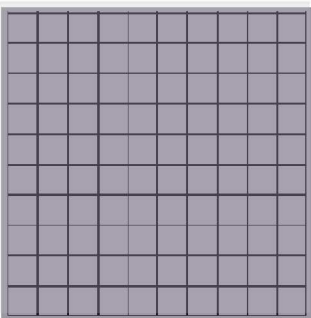
1. What decimal number is illustrated? _____



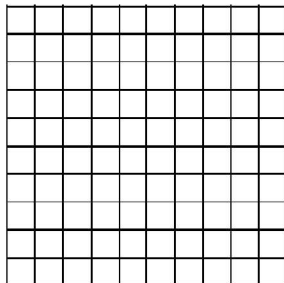
2. What decimal number is illustrated? _____



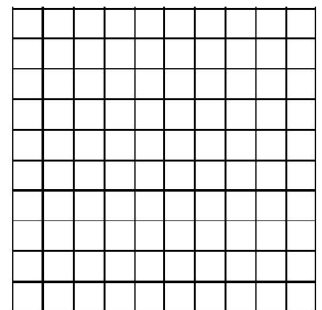
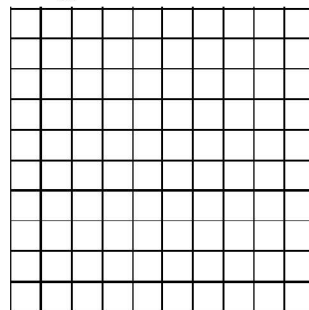
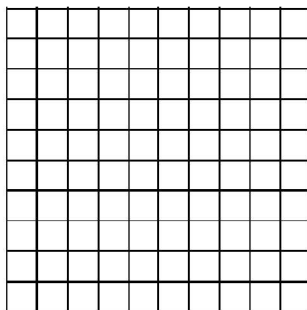
3. What decimal number is illustrated? _____



4. a. Shade the grid to show 0.8.

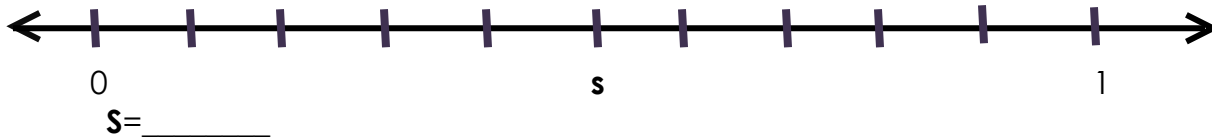


b. Shade the grids to show 2.92.

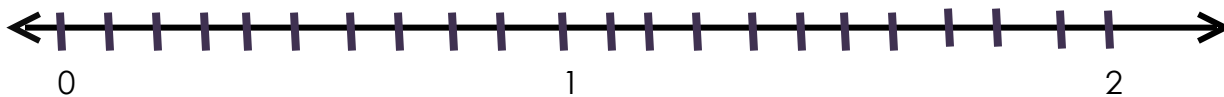


5. In 58.36, which digit is in the tens place? _____
6. In 204.936, which digit is in the hundredths place? _____
7. Which decimal is equivalent to 3.065?
 - a. 03.650
 - b. 30.65
 - c. 3.0650
 - d. 3.650

8. Find the value of **s**. Write your answer as a decimal number.



9. If the value of **m** is 1.70, place it on the number line



10. Put the decimals in order from least to greatest.

20.911 8.598 41.602 46.110 65.450

Step A

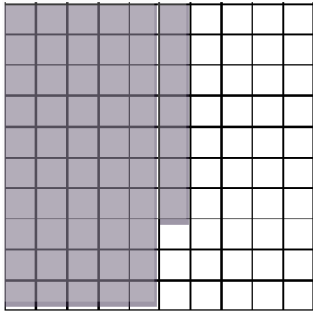
Ben's Bug Emporium displays insects in large glass cages. In case one, 0.2 of the insects are a native of Maryland. In case two, 0.15 of the insects are native to Maryland. Which case has more native Maryland insects?

Step B

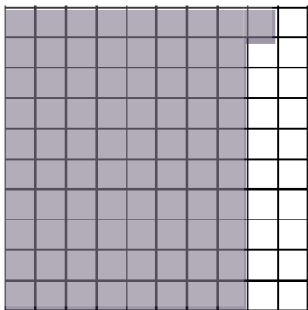
Explain how you determined your answer. Use what you know about comparing decimals in your explanation. Use words, numbers, and/or symbols in your explanation.

Decimal Unit Assessment Answer Key

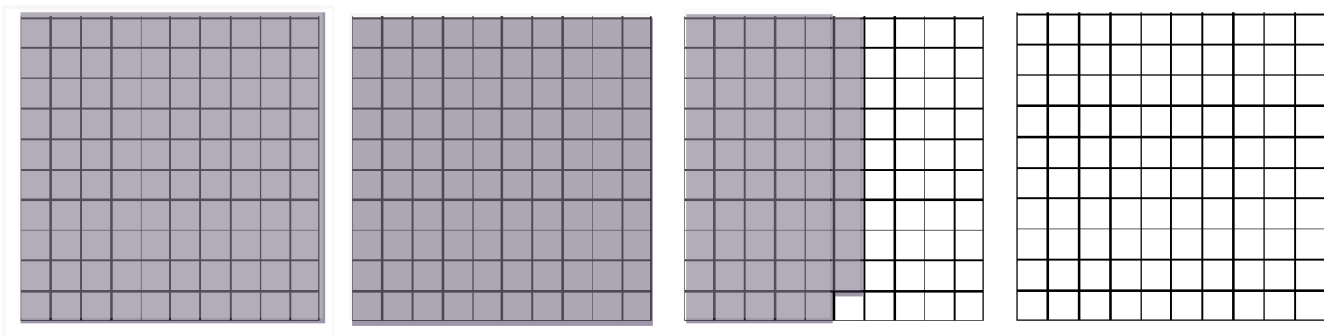
1. What decimal number is illustrated? 0.57



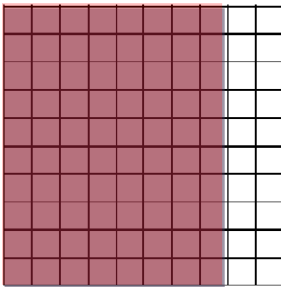
2. What decimal number is illustrated? 0.81



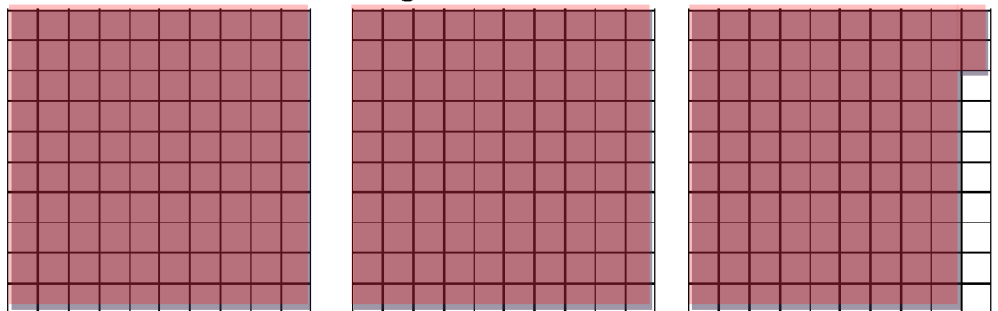
3. What decimal number is illustrated? 2.59



4. a. Shade the grid to show 0.8.

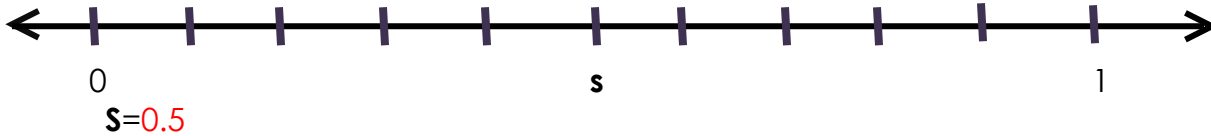


b. Shade the grids to show 2.92.

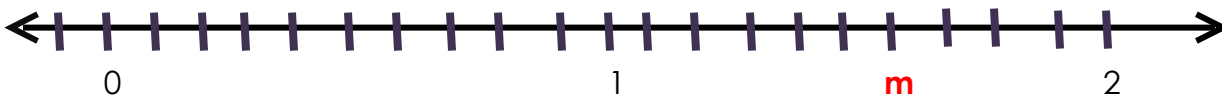


5. In 58.36, which digit is in the tens place? **8**
6. In 204.936, which digit is in the hundredths place? **3**
7. Which decimal is equivalent to 3.065?
 - a. 03.650
 - b. 30.65
 - c. 3.0650 X**
 - d. 3.650

8. Find the value of **s**. Write your answer as a decimal number.



9. If the value of **m** is 1.70, place it on the number line



10. Put the decimals in order from least to greatest.

8.598 20.911 41.602 46.110 65.450

Step A

Ben's Bug Emporium displays insects in large glass cages. In case one, 0.2 of the insects are a native of Maryland. In case two, 0.15 of the insects are native to Maryland. Which case has more native Maryland insects?

Case one

Step B

Explain how you determined your answer. Use what you know about comparing decimals in your explanation. Use words, numbers, and/or symbols in your explanation.

I know 0.2 is greater because it has two tenths and 0.15 only has one tenth and two tenths is twice the size of one tenth.
